REMARKS

The Abstract has been amended to eliminate the phraseology "this invention relates to", and further amendments have been made for purposes of clarity. It is believed that the Abstract should now be in an acceptable format and length.

New claims 25-30 have been added. Claims 1, 4, 6-9, and 11-20 have been amended. The application now includes claims 1-30.

The drawings were objected to as not showing the feature of claim 5. However, each of the drawing figures show layer 7, and the patent application identifies layer 7 as being "a spacer knit which consists of two spacer textile surfaces connected to each other by spacer threads". See page 7, at lines 25-27. Therefore, the Figures, as originally filed, support the claimed invention. In any event, dependent claim 5 is directed to a particular type of layer being used in the shaped article, and such a knit cannot be drawn with anymore specificity than its description as set forth in the patent specification. Given that the drawings show layer 7, withdrawal of the requirement for corrected drawing sheets is requested.

Claim 1 has been amended to be in a format more suited to U.S. practice, and to require that the shaped article include the following (all of which are shown in all four of the drawings):

a) a supporting gel layer (2), (resilient, but retaining its shape)

b) a polyurethane foam layer (6), and

c) an upper covering (7).

The supporting gel layer is now identified as a polyurethane polymer gel as discussed in the application on page 2 of the application, at lines 10-12. One side of the supporting gel layer (2) includes integral supports (3) which are spaced apart from each other by expansion channels (4) (see Figures 1-4 and the application at page 6). Claim 1 has been amended to cover the situation where the foam layer (6) extends over the columnar supports of the supporting gel layer (2) as shown in Figure 1, or the situation where a portion of the foam layer on its underside has projections (6a) which extend into the expansion channels of the supporting gel layer (2). Claim 4 specifically requires the projections (6a) from the

lower side of the foam layer project into the expansion channels of the supporting gel layer (as is best shown in Figure 2-4).

Claims 6-9 and 11-17 have been amended to address antecedent basis issues. Claim 13 has also been amended to eliminate the "preferably" language. New claims 29 and 30 require the subject matter canceled from claim 13.

New claims 27-28 cover the shaped body when used as at least part of a seat cushion, as is contemplated by original claim 1. Page 1 of the application identifies, for exemplary purposes, the invention being used in arm rests, back cushions, and neck cushions.

An information disclosure statement is being concurrently submitted with this amendment which identifies references recently identified on a European Search Report. These references include UK Patent 749,999, U.S. Patent 2,604,642, German Patent DE 201 13 387, French Patent 1,175,816, U.S. Patent 4,696,516, and French Patent 560935. All the references pertain to mattresses and seats made of foam materials only. These materials might be polyurethane foams or foam rubber for the mattresses. Thus, the references cited in the European Search Report are no more relevant to the claimed invention than those cited in the U.S. examination. An indication of the consideration of the information disclosure statement in the next action is requested.

Claims 18-27

The undersigned notes with appreciation that claims 18-24 were identified as being drawn to allowable subject matter. Claim 18 has been amended to independent form, and is in a style more suited to U.S. practice. Claim 18, as amended, now specifies the polyurethane gel formed from specific materials set forth in original claim 12, the inclusion of hollow microbeads as filler as set forth in original claim 18, and the use of three layers (the polyurethane gel layer, the polyurethane foam layer, and the covering) as set forth in original claim 1. To comply with antecedent basis requirements with respect to claim 24, claim 18 also specifies the use of coarse-grained solid particles as a filler.

To avoid any indefiniteness claims 19 and 20 have been amended to eliminate the language that includes "preferably". New claims 25 and 26 have

been added to cover the specific preferred embodiments canceled respectively from claims 19 and 20.

Claim 18 is believed to be allowable for the same reasons as were found in the previous office action. Therefore, claim 18 and its dependent claims 19-27 should now be in immediate condition for allowance.

Claims 1-17 and 28-30

Claims 1-3, 6, 7, 11, and 12 have been rejected as being obvious over U.S. Patent 5,845,352 to Matsler in view of U.S. Patent 6,745,499 to Christensen and U.S. Patent 6,336,681 to Crosbie. Claims 4, 9, and 10 have been rejected as being obvious over the Matsler/Christensen/Crosbie combination as applied to claim 1 further in view of U.S. Patent 5,680,662 to Purdy. Claim 5 has been rejected as being obvious over the Matsler/Christensen/Crosbie combination as applied to claim 1 further in view of U.S. Patent 6,630,227 to Himmelsbach. Claims 13 and 17 are rejected as being obvious over the Matsler/Christensen/Crosbie combination as applied to claim 1 further in view of U.S. Patent 4,456,642 to Burgdorfer. Each of these rejections is respectfully traversed in view of the amendment above, and the remarks below.

It is noted that the invention is drawn to a shaped body having particular application to a seat cushion. The invention allows for high seating comfort, but with an overall height which is reduced when compared to conventional seat cushions. With reference to Figures 1-4 of the application, it can be seen that the invention includes a supporting gel layer having integral supports on its upper side that are spaced apart by expansion slots. The supporting gel layer is a polyurethane polymer gel. It is not a foam (a separate and distinct polyurethane foam layer and upper covering are also recited in claim 1), and it is not a liquid, as it is used for providing resilient support using the upwardly projecting, and preferably columnar supports (see claim 3). As explained on page 2 of the application, and claimed in, for example, claims 11-14, the polyurethane polymer gel, can be made from a number of polymeric materials including long polymer threads with only a few linkages and without added plasticizers, or

undercrosslinked polyurethane based on polyols and polyisocyanates where the isocyanate functionality of the polyol is 5.2 or more (it may also be based on polyethers and polisocyanates).

Page 3 of the application identifies the preferred chemical formula of the polyurethane polymer gel, and this material is contrasted with that used in the mattress industry (such as the cited reference to Crosbie) and the shoe industry (such as the cited reference to Christenson). Page 4 of the application characterizes some of the prior art materials as having a high dead weight, high heat capacity, and as having an unpleasant feel.

The principal reference relied upon by the Examiner is U.S. Patent 5,845,352 to Matsler. However, contrary to the conclusions of the Examiner, Matsler does not show a lower supporting layer (identified by the Examiner as 12 in Matsler) with integral supports spaced apart by expansion channels. Rather, it is clear that "12" designates an air cell module. With reference to Figures 1, 3, 5, and 12 of Matsler, it is clear that the air cell module 12 does not support a foam layer (or anything else) on its upper surface, but is rather located in a chamber specifically designed therefore (see particularly, column 3, lines 55-56 of Matsler, "The chamber 30 is designed to accommodate the air cell module 12", as well as column 3, lines 66-67, "This is provided by the air module 12, which is positioned inside the rear chamber 30").

Furthermore, since Matsler describes an air cell module 12, it is clear that the air cell module would not have integral supports on its upper side which are spaced apart via expansion channels. That is, the "air" of the air cell module does not in and of itself project above the module in defined locations with expansion slots in between. In sharp contrast, the claimed invention, as best shown in Figures 1-4 requires integrally formed, upwardly projecting supports 3 that contact the overlying foam layer.

Finally, the foam layer 11 of Matsler does not rest on the air module 12. Rather, Figure 3 of Matsler clearly shows the air module positioned in a chamber, such that the air module can only support the shaped foam layer 11 when a person is sitting on the seat member.

To highlight these distinctions, claim 1 has been amended to specifically

require that the polyurethane foam layer rests on the integral supports of the supporting gel layer and covers the integral projections or at least partially fills the expansion slots between the integral projections.

None of the remaining of references can be used in combination with Matsler to make these claimed features obvious.

In particular, Christensen shows a shoe sole having a resilient insert which provides fluidic cushioning ans support to the foot of the wearer. For this purpose, there are provided chambers of air cushions within the sole. Column 12 of Christensen teaches that "the resilient insert could contain a fluid other than ai (e.g., a liquid, high molecular weight gas or gel)". However, this only means that air can be replaced by another fluid, which is a material that is fluid or fluent and will not retain its shape in a flow process under pressure. Combining Matsler and Christensen, the skilled person could only be motivated to replace the fluid within the cell module 12 with a gel, water, or heavy gases. For the reasons outlined above, this does not yield the claimed invention since the claim requires the supporting gel layer have integral supports on its upper side, and have a foam layer resting on the integral supports. This is simply not shown or suggested by any combination of Christensen and Matsler. That is, there is no reason suggested by either Christensen or Matsler which would lead a skilled person to replace the air cell module as a whole by a shaped gel layer with integrated supports and expansion channels (this would be an impermissible hindsight reconstruction). The claimed invention uses a polyurethane polymer gel (as discussed in the specification and amended in claim 1), which is a polymerized elastomeric or crosslinked gel, and not a fluid gel. The gel according the invention is a resilient material that will retain the original shape after pressure, exposure and removal.

Finally, Crosbie, when combined with Christensen and Matsler does not make the claimed invention obvious. With reference to Figures 3a-3d of Crosbie, it can be seen that Crosbie does not show or suggest having a polyurethane foam layer resting on integral supports of a gel supporting layer. As such, Crosbie does not make up for the deficiencies of Christensen and Matsler. Similarly, Purdy, Himmelsbach, and Burgdoerfer do not show or suggest this feature, and, therefore, if combined with, Matsler, Christensen and Crosbie, would not make the claimed

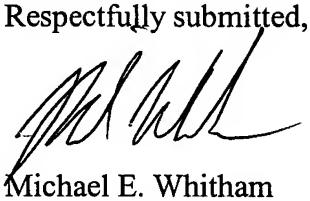
invention obvious.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1-30 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041 (Whitham, Curtis & Christofferson, P.C.).

Respectfully submitted,



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